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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,744	10/22/2001	Dirk Quintens	27500-10	8435

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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/085,744	<b>Applicant(s)</b> QUINTENS ET AL.	
	<b>Examiner</b> Elena Tsoy	<b>Art Unit</b> 1762	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                               | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2/07/05</u> . | 6) <input type="checkbox"/> Other: _____.                                   |

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***Request for Reconsideration***

1. Request for Reconsideration filed on February 7, 2005 has been considered. Claims 1-9, 11-12 are pending in the application.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-3** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of JP63101463 for the reasons of record as set forth in Paragraph No. 3 of the Office Action mailed on November 8, 2004.
4. **Claims 4-6, 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of JP63101463, further in view of Cousin et al (US 4,554,181) for the reasons of record as set forth in Paragraph No. 5 of the Office Action mailed on July 7, 2004.
5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of JP63101463, further in view of Cousin et al (US 4,554,181), and further in view of Rabasco (US 6,455,134) for the reasons of record as set forth in Paragraph No. 6 of the Office Action mailed on July 7, 2004.
6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of JP63101463 in view of Cousin et al (US 4,554,181), and further in view of

Malhotra et al (US 5,693,410) for the reasons of record as set forth in Paragraph No. 7 of the Office Action mailed on July 7, 2004.

7. **Claims 11, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of JP63101463, further in view of Van den Zegel (US 5,693,370) for the reasons of record as set forth in Paragraph No. 8 of the Office Action mailed on July 7, 2004.

***Response to Arguments***

8. Applicants' arguments filed February 7, 2005 have been fully considered but they are not persuasive.

(A) Applicants argue that Sekiguchi, at column 15 lines 30-31, teaches the coating and drying of a coating fluid. Therefore, Sekiguchi does not disclose simultaneous coating of different ink receiving layers in a wet-on-wet fashion.

In contrast to Applicants' argument, at column 15 lines 30-31, Sekiguchi teaches coating and drying a coating fluid having the tetraalkoxytitanium, colloidal silica and a binder resin mixed, **on** an ink-receiving layer made of alumina hydrate, i.e. first coating a top layer (b) on a layer (a) of alumina hydrate, and **then** drying (clearly both ink receiving layers). Sekiguchi discloses that an ink-receiving layer containing fine inorganic particles of alumina hydrate and water as the main solvent (claimed layer (a)) is coated first on a support, and then overcoating or impregnating for penetration the alumina hydrate layer with an ink-receiving layer containing the tetraalkoxytitanium dissolved in an organic solvent (claimed layer (b)), **followed by drying** (See column 14, lines 64-67; column 15, lines 1-5, 16-25). Sekiguchi further teaches that in the ink jet recording sheet thus prepared, the tetraalkoxytitanium from the outermost ink-receiving layer *penetrates* in the lower ink-receiving layer *immediately* after the coating (clearly, a layer (a) must

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be in **wet** condition to be penetrated **immediately**) and **then dried** (See column 16, lines 27-40). Thus, Sekiguchi expressly teaches that ink-receiving layers (a) and (b) are coated in a wet-on-wet fashion and then dried. Both layers comprise, in addition to fine inorganic particles of alumina hydrate or colloidal silica (See column 9, lines 28-30), a binder in an amount of 0.1 to 100 parts by weight, more preferably from 2 to 50 parts by weight, per 100 parts by weight of the fine inorganic particles (See column 12, lines 32-34). The binder resin is any known natural and synthetic resin binder without any particular restriction (See column 12, lines 13-16), including (water-soluble) hydroxyethyl (ether) cellulose (See column 11, lines 60-65) and PVA, which is a *water-soluble* polymer (See column 11, lines 60-67; column 12, lines 1-20), or preferably binder resins containing amino groups (See column 12, lines 16-20). In other words, the an ink jet recording sheet of Sekiguchi comprises a layer pack comprising in order, (a) ink-receiving layer *containing aqueous* dispersion of alumina hydrate pigment in an amount within claimed range and an *aqueous solution* of PVA (See column 31, lines 46-59), and (b) ink-receiving layer *containing* a water-soluble polymer PVA and an organocolloidal silica in organic solvent such as methanol, ethylene glycol, xylene.

It is well known in the art that most organic solvents have low surface tension, e.g., methanol has  $\gamma=24$  dynes/cm, ethylene glycol has  $\gamma=48$  dynes/cm while water has a very high surface tension of 72 dynes/cm., i.e. surface tension of water is higher than that of methanol and ethylene glycol.

Therefore, Sekiguchi alone even without secondary reference of JP63101463 discloses simultaneous coating of different ink receiving layers (a) and (b) in a wet-on-wet fashion, wherein a surface tension of layer (b) is lower than the surface tension of layer (a).

However, a secondary reference of JP63101463 can also be relied upon to show that when upper coat paint, e.g. clear paint is applied on a base coat paint by wet-on-wet process, wherein the surface tension of the base paint is higher than that of the upper coat paint, the upper coat paint expands to make thin film over the base coat film surface, and shows good leveling property (See Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied upper layer (b) on a base layer (a) in Sekiguchi by wet-on-wet process, wherein the surface tension of the base layer (a) is higher than that of the upper layer (b), with the expectation of providing the desired good leveling property and good expansion of the upper layer (b) to make thin film over the base layer (a) surface, as taught by JP '463.

(B) Applicants argue that the Office has incorrectly considered non-simultaneous wet-on-wet coating and simultaneous wet-on-wet coating to be the same. JP '463 clearly teaches against simultaneous wet-on-wet due to the expected disturbance of the first layer. JP '463 even teaches against coating "immediately after" the previous coat.

Firstly, JP '463 clearly teaches that the disturbance of the first layer is expected when base coat film easily dissolves in the solvent of clear paint. Therefore, if clear coat is xylene-based, one of ordinary skill in the art at would not expect that the water soluble polymer in the previous coat to be disturbed upon coating "immediately after".

Secondly, Sekiguchi teaches "Here, it is possible to coat a certain amount of **the ink-receiving layer** on the support in installments. As the method for coating the ink-receiving layer on the support in installments, after a layer gets dry, the next layer may be coated thereon, or a plurality of layers are *simultaneously* coated in a wet-on-wet fashion" (Emphasis added) (See column 17, lines 40-45). As was discussed above in (A), each of both layers (a, b) (i.e. the layer

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(a) made of alumina hydrate and the layer (b) containing tetraalkoxytitanium, colloidal silica, and a binder resin) are referred to by Sekiguchi as “**the ink-receiving layer**” (See column 15, lines 16-20, 32). Since Sekiguchi does not limit this teaching to any particular ink-receiving layer, the above the phrase of Sekiguchi may be interpreted as methods for coating each and/or both layers (a) and (b). Or it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied both ink-receiving layers of Sekiguchi *simultaneously* in a wet-on-wet fashion instead of drying each layer before applying the next layer because Sekiguchi teaches that the ink-receiving layers can be applied either *simultaneously* in a wet-on-wet fashion or drying each layer before applying the next layer.

Even if it could be argued that the above phrase of Sekiguchi cannot be interpreted as to both layers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied both ink-receiving layers of Sekiguchi in view of JP '463 *simultaneously* in a wet-on-wet fashion instead of drying each layer before applying the next layer with the expectation of providing the desired not disturbed innermost ink-receiving layer since the outermost ink-receiving layer is solvent based while the innermost ink-receiving layer is water based.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-141523. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy  
Primary Examiner  
Art Unit 1762

ELENA TSOY  
PRIMARY EXAMINER  
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March 30, 2005